

ABSTRACT

**METHOD FOR PRODUCING ACETONE CYANHYDRIN AND THE SUBSEQUENT
PRODUCTS THEREOF BY SPECIFIC COOLING**

The invention generally relates to a method for producing acetone cyanhydrin, comprising the following steps: A.) contacting acetone and hydrocyanic acid in a reactor to give a reaction mixture, said reaction mixture being circulated and acetone cyanhydrin being obtained; B.) cooling at least part of the reaction mixture by passing it through a cooling zone of a cooler, said cooler containing a cooling element or at least two cooling elements; C.) separating off at least part of the produced acetone cyanhydrin from the reactor, the volume of the cooling zone of the cooler, based on the overall interior volume of the cooler, being larger than the volume of the cooling element or of the at least two cooling elements of the cooler.

Fig 1